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MacPherson Kwok Chen & Heid LLP  
1762 Technology Drive  
Suite 226  
San Jose, CA 95110

EXAMINER

SODERQUIST, ARLEN

ART UNIT PAPER NUMBER

1743

DATE MAILED: 02/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/086,025	<b>Applicant(s)</b> ANDERSON ET AL.	
	<b>Examiner</b> Arlen Soderquist	<b>Art Unit</b> 1743	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 December 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 109-124 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 109-124 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. The amendment filed April 20, 2004 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the changes to the paragraph beginning on page 1, line 19 removed references to a related patent and application along with their incorporation by reference; the change to the paragraph beginning on page 2, line 13 removed an admission that the preferred embodiment of the invention uses the method known as Speciated Isotope Dilution Mass Spectrometry (SIDMS); the change to the paragraph beginning on page 5, line 29 again removes a reference/admission that patented techniques are used in the invention; the deletion of paragraphs beginning on page 18, line 31 and page 19, line 11 remove information related to the SIDMS technique; and the change to the paragraph beginning on page 19, line 17 broadens the disclosure by changing a positive recitation that the apparatus uses the SIDMS method to the apparatus may use the broader IDMS method. These changes change the scope of the disclosure and potentially remove what could be considered to be the best mode of the invention by removal of the reference to the related patent and application.

Applicant is required to cancel the new matter in the reply to this Office Action.

2. Claims 109 and 119 are objected to because of the following informalities: in claim 109, lines 12-13 "such that the sample" was apparently intended; in claim 119, line 7 "the equilibrated mixture" was apparently intended. Applicant is encouraged to review the claims for similar informalities. Appropriate correction is required.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 114, 116-117 and 124 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification in the discussion of figure 6, the dilution modules, contains a specific example in which each successive dilution changes the spike concentration by about

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30 times. This does not provide sufficient basis to specifically claim a range of possible dilutions for each module as found in the claim 114. The first paragraph of page 32 of the instant specification teaches that the arrangement and sizing of syringes, as well as the distance of driving plungers and the rate of plunger travel, is such that the dilutions provided the specified concentrations. This does not support specifically claiming only one of the three things listed as the means to achieve the dilution as in claim 116. Claim 124 has the same problem as claim 114 in that a single example is given in which each successive dilution has about the same rate or ratio of dilution: about 30 times.

5. Claims 109-124 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 109, it is not clear if the mass spectrometer is configurable by the control system since it appears to be part of the functional language yet is not listed in the elements of the apparatus that the control system is adapted to automatically configure. In claim 118 it is not clear if the plurality of spike sources are in addition to the spike reservoir of claim 109 or if they are a further definition of the spike reservoir. In claim 110, it appears that the sample extraction apparatus should be required to deliver or transfer the extracted sample to the mixer of claim 109. in other words the limitation of claim 110 is lacking a structural connection to the other elements of the device. Claim 112 also lacks a structural connection with the other elements of the system. In claim 114, it is not clear if the dilutions are a percentage (30% less each dilution), a multiple (30 times less each dilution) a specific change in concentration (30 ppb less each dilution) or if each dilution sub-module performs a certain number of dilutions. For examining purposes, the claim will be examined using the example in the specification in which each successive dilution causes the concentration to change by about 30 times. In claim 115 it is not clear if applicant is trying to claim a specific change in the concentration after the last dilution relative to the initial concentration or if the "may be six orders of magnitude" is only a possibility and applicant intends the claim to cover all possible situations with the language. If the latter case is true then the claim fails to further limit the claim from which it depends. In claim 119, it is not clear if the estimate is required to be anywhere near the concentration of the analyte or if the estimate includes situations where the concentration is known by some other method. In other words it is not clear what basis is used for the estimate: the concentration that

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should be in the solution being analyzed, a guess, a previous measurement or a number that is entered in the control system. In claim 124 it is not clear what is appropriate or not appropriate in selecting the dilution achieved in each successive dilution. Again I claim 124 it is not clear what basis is being used for the selection of the dilution.

6. Claims 119-124 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: that the spike concentration is about the same concentration as the analyte in the sample. In the discussion of the basis for claim 119 in the paper filed April 20, 2004, applicant points to the paragraph starting on page 30, line 19. Two sentences of that paragraph from page 30, lines 22-27 are reproduced below.

“It is necessary in embodiments of the invention that the relative concentration of the spike for any specie for which monitoring is accomplished be in the same general range as the expected concentration in the sample. If the spike concentration is either much too high or much too low, then the mass spectrometer will not be able to provide a ratio of isotopes with adequate resolution to determine the sample concentration.”

It is clear from this section that a specific relationship is required between the spike concentration and the concentration of the monitored specie in the sample for the method to provide a ratio with adequate resolution as in claim 121. Thus this condition is required or necessary for the method to perform its intended purpose.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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8. Claims 109-112 and 118-122 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marchante-Gayon, Rottmann or Viczian in view of Maxwell or Köster (US 6,730,517) and Kingston (US 5,414,259 or WO 99/39198), Dureault and Multala.

In the paper Marchante-Gayon presents a study of random and systematic errors for the determination of molybdenum by inductively coupled plasma mass spectrometry using online isotope dilution analysis. Reverse isotope dilution analysis was applied for the determination of the concentration of a  $^{95}\text{Mo}$  enriched spike and the procedure was automated using an auto sampler where natural Mo standards and samples were alternatively mixed online with the spike solution. A new equation is proposed for the online mixing of samples and spike using the autosampler. The measurement of a natural Mo standard between the samples makes possible to perform isotope dilution analysis referring the results to the natural Mo standard regardless of the concentration of the spike. The effects of both systematic and random errors were examined and the error theory was applied for the accurate determination of Mo in biological materials by ID-ICP-MS. On page 86, the second and third paragraphs teach, two solutions having molybdenum at concentrations of about 1  $\mu\text{g/g}$  produced by diluting a first solution to the desired concentration. The second solution is the enriched isotopic spike solution. The last paragraph of page 86 teaches this spike added online with the help of an autosampler, a two channel pump and a T piece placed before the nebulizer. Marchante-Gayon does not teach all of the system components.

In the paper Rottmann presents the development of an online isotope dilution technique with HPLC/ICP-MS for the accurate determination of elemental species. An online isotope dilution technique was developed for use with a HPLC system (HPLC) coupled to an inductively coupled plasma mass spectrometer (ICP-MS). With this method it is possible to characterize elemental species at low concentration levels and to quantify them accurately. The possibilities of this method are shown using the samples of the determination of the interactions of different molecular weight fractions of dissolved organic matter (DOM) with copper and molybdenum in a natural water sample. Page 3711 teaches that the spike solution is prepared by diluting a commercially available standard solution or stock solutions prepared from isotopically enriched

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solids. The last full paragraph of the page teaches mixing the spike with the sample online through a Y-junction. Rottmann does not teach all of the system components.

In the paper Viczian teaches on-line isotope dilution and sample dilution by flow injection and inductively coupled plasma mass spectrometry. A systematic investigation was made to demonstrate the applicability of a flow injection system for online isotope dilution and online sample dilution, as obtained by merging the sample solution with the spike solution or with the diluent, respectively. The effect of the sample to spike ratio on the precision and accuracy was examined, and the advantages and limitations of the proposed technique are demonstrated. A plurality of enriched spike concentrations is taught on page 127 in the second paragraph of the “On-line Isotope Dilution and Spike to Sample Ratio” heading. Viczian does not teach all of the system components.

In the abstract Maxwell teaches an automated spike preparation system for isotope dilution mass spectrometry. Isotope Dilution Mass Spectrometry (IDMS) is a method frequently employed to measure dissolved, irradiated nuclear materials. An automated spike preparation system was developed at the Savannah River Site (SRS) to dispense spikes for use in IDMS analytical methods. The new system employs a high precision SMI Model 300 Unipump dispenser interfaced with an electronic balance and a portable Epson HX-20 notebook computer to automate spike preparation. Using the computer to collect duplicate net weights on a predetermined number of spike containers, dispensing accuracy is confirmed by a statistically-based sampling plan. The density of the spike solution, the volume setting on the Unipump dispenser, and the calculated net weights of the spikes, the average weight of the spikes are calculated along with an observed variance estimate. If the observed variance control limits, the spikes are released and treated as having equal quantities of the spiked isotope within the calculated uncertainty estimate. This feature eliminates a whole layer of bookkeeping and the need to track individual spike containers and their individual quantities of the spiked isotope.

In the patent Köster teaches an automated process line in which fully a fully automated modular analysis system integrates instrumentation to permit analysis of biopolymer samples, such as nucleic acids, proteins, peptides and carbohydrates. The system integrates analytical methods of detection and analysis, such as mass spectrometry, radiolabeling, mass tags, chemical tags, fluorescence and chemiluminescence, with robotic technology and automated chemical

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reaction systems to provide a high-throughput, accurate automated system for high throughput analyses. Column 1, lines 25-40, teach that current methods of testing typically employ multiple instruments for preparing and analyzing samples and involve multiple manual handling steps and transfers. Such procedures are labor-intensive, time-consuming, and costly and they are susceptible to human error, sample contamination, and loss. After samples have been prepared, they can be subjected to testing procedures that produce data for analysis. Conventional testing procedures often must be performed one sample at a time by an individual laboratory technician. Laboratory technicians are typically individuals who are most likely trained to operate only a single instrument. Automation will reduce the number of personnel and training necessary to carry out the research. Reliable and accurate automated process and analysis tools are necessary for the benefits of recent scientific discoveries to be fully achieved. Column 2 gives some of the advantages of automation and gives a summary of the device and method. Columns 9-11 discuss the automated process line including the addition of mass tags (isotopic spikes).

In the published application Kingston teaches speciated isotope dilution mass spectrometry of reactive species. Speciated isotope dilution measurement of reactive species by spiking stable isotopes to convert to speciated enriched isotope corresponding to species to be measured. The method is carried out by providing at least one predetermined stable isotope. The sample is spiked by an isotopic spike prepared by converting the stable isotope to a speciated enriched isotope corresponding to the species to be measured in the sample. The isotopic spiked species are equilibrated with the species to be measured. At least a portion of the species is separated from the sample and isotope ratio determination is carried out for each species to be measured. The species concentration is mathematically deconvoluted, using given mathematical formulas, while correcting for species conversion and/or incomplete separation. To determine a specie of interest in environmental, biological, pharmaceutical and industrial samples and standard reference materials, e.g. Cr (III) a trace element essential for human health and Cr (VI) poisonous to most animals. An accurate quantification of the species of interest is ensured in spite of incomplete extraction, conversion, solubility, separation, isolation or degradation of species. The method facilitates correction for incomplete isolation of species through the use of a tag, which joins the isotope spike with the specie to be measured.



In the patent Kingston teaches species measurement using enriched isotope spikes of same speciated form - involves using specie ratio to measure, equilibrate, separate and subsequently determine the specie concentration by dilution mass spectrometry. Method of isotope dilution measurement of a sample comprises: (a) providing at least one predetermined, stable isotope; (b) converting the isotope to a speciated enriched isotope corresponding to the species to be measured in the sample; (c) spiking the sample containing the species to be measured; (d) equilibrating the spiked species with the species to be measured; and (e) separating all the species from the sample and determining the concentration of the species to be measured by employing isotopic element specie ratios. Time-resolution chromatography may be employed to effect the separation and a mass spectrometer may be employed in the isotope dilution measurements. A determination as to whether isotope conversion has occurred is made. Species measurement using enriched isotope spikes of same speciated form. The specie ratio is employed to measure, equilibrate, separate and subsequently determine the specie concentration by dilution mass spectrometry.

In the published application Dureault teaches an automatic sampling, diluting and analyzing module. The module has 1st and 2nd sections containing eight-way valves, which are operable to sample test liquid, add diluents and reagent prior to analysis. Typically the 1st section samples the test liquid using a syringe pump to supply a loop. Syringe sucks up diluent and then scavenges liquid from the loop for dilution and supply to a 2nd loop. Another syringe scavenges the now diluted sample from the 2nd loop and sucks up reagent and diluent and then delivers the resulting sample/reagent/diluent mixture to an analyzer. Utility is in analyzing hydrazine in solutions used in nuclear fuel reprocessing using dimethylaminobenzaldehyde reagent.

In the paper Multala teaches computer controlled start-up and monitoring system for a pilot-plant distillation column including an on-line quadrupole process analyzer. The start-up-2/75 distillation control system presented is based on a known the start-up-1/75 system reported by K.K. Salminen and A. Halmu (1977). System enhancements are on-line, quadrupole, mass-spectrometric process analyzer and a reporting program to print out state reports of the distillation column in real time. Six sample points in the distillation process are analyzed continuously by the on-line control system. The sampling rate is 30 s and the analyzing rate ~1

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s. A relative accuracy of 2% was achieved with binary water-ethanol mixture. A state report is printed, normally, every 3 minutes, including concentrations, flows, temperatures, and mass balances. The system can be applied to experimental research of transient responses and distillation process dynamics.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate means to automatically prepare the spike as taught by Maxwell or Köster through dilution as taught by Marchante-Gayson, Rottmann or Viczian because of the advantages for automation taught by Köster or generally known in the field. It should be noted that claims 109 and 119 do not require the connection of the analyzer to the process solution. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the various apparatus of Kingston, Dureault and Multala into the device and methods taught by Marchante-Gayson, Rottmann or Viczian because of the automation advantages taught by Kingston, Dureault and Multala and the recognition that the apparatus of Marchante-Gayson, Rottmann or Viczian can perform the isotope dilution analysis on a variety of samples including industrial as taught by Kingston.

9. Applicant's arguments filed December 27, 2004 have been fully considered but they are not persuasive. Relative to the new matter objection of the amendments to the specification, examiner first points out that new matter exists if the scope of the disclosure has changed in a manner that was not supported by the original disclosure. Examiner refers applicant to MPEP 608.01(p) since it is relevant to the changes to the instant specification that were made by applicant. This section of the MPEP deals with completeness of the disclosure. As part of that discussion is a requirement that a newly filed application should contain a complete description of the details of the invention to allow those persons skilled in the art to make and use the invention. Incorporation by reference is one way that the completeness requirement can be met. The following is an excerpt from the above MPEP section under the subheading of "complete disclosure filed".

"If an application is filed with a complete disclosure, essential material may be canceled by amendment and may be substituted by reference to a U.S. patent or an earlier filed pending U.S. application. The amendment must be accompanied by an affidavit or declaration signed by the applicant, or a practitioner representing the applicant, stating

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that the material canceled from the application is the same material that has been incorporated by reference. “

From this it is clear to see that when a complete disclosure was filed as in the instant application, material may be canceled from the disclosure by including an incorporation by reference statement in the specification to the source that the canceled material may be found. This is to be distinguished from what was done in the instant application in which the incorporation by reference to the related application and patent and the disclosure related to the application and patent were removed by amendment. Applicant cannot arbitrarily or intentionally remove portions of a disclosure. The changes by applicant clearly go beyond the mere rephrasing of a passage or correction of obvious errors that MPEP 2163.07 indicate are not new matter situations. Thus the changes to the specification do change the scope of the disclosure and thus constitute new matter. In other words, the changes made are equivalent to a person writing my preferred color is blue and then trying to erase that statement at a later date. Regardless of the reason for the change, the first statement was part of the original disclosure and allowing it to be changed, changes what was part of the original disclosure. If the scope or best mode or preferred mode of an invention has changed, it is not permissible to change an originally filed disclosure to meet the current understanding through addition to or deletion from the original disclosure. The proper way to reflect such changes is through filing a continuation-in-part application not by amending the instant application. While applicant is correct that the claims are not set in stone, the scope of the disclosure is limited to that of the original disclosure. Changes to the disclosure that do not affect the scope of the disclosure are allowed while changes to the disclosure that affect the scope of the disclosure are not allowed. Relative to the concentration of the diluted spike, none of the claims require the concentration of the diluted spike to be at any particular level. Additionally the instant claims do not require that the species information be preserved through the ionization process. As a result the Kingston patent and application that are incorporated by reference are still within the scope of the instant claims. Additionally the instant claims do not exclude a physical separation step or element as a part of the system by either using closed language or a negative limitation that is supported by the original disclosure. Again the Kingston references are clearly within the instant claim scope. Relative to the ranges, where is the support for starting at 1. While there appears to be support for the dilution range being

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variable there is not support for the dilution range to start at 1! Relative to the missing step in claim 119, examiner understands the argument to mean that there is no restriction to the relative concentration of the spike and there is no limitation to the method steps based an estimate of the concentration of the analyte. The rejection has been maintained and further explained. Relative to the art rejection, there are references showing the automation of spike dilution. Examiner would also like to point out that the primary references all teach dilution of a spiking solution to arrive at the spiking solution used in the apparatus and methods. This leads directly into the automation of that process in view of the Maxwell and Köster references. Examiner also points out that there is no direct connection between the apparatus claimed in claim 109 and a process solution. Thus one could carry a sample to the device of claim 109. Even in claim 110 the scope of the language is capable of covering an autosampler. In response to applicant's argument that none of the references teach or suggest the advantageous combination of elements relative to the computerized control and management system, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). Examiner notes that the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981) and *In re Sneed*, 218 USPQ 385, 389 (Fed. Cir. 1983). Additionally relative to the advantages of examiner being different from those of applicant, each of the Kingston, Dureault and Multala references teach advantages relative to the automation of analysis. With two of the references, Dureault and Multala the advantages are with respect to automates extraction (sampling) for analysis of process fluids and in at least the Kingston reference, this automation is related to isotopic specie determination.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arlen Soderquist whose telephone number is (571) 272-1265. The examiner's schedule is variable between the hours of about 6:30 AM to about 5:00 PM on Monday through Thursday and alternate Fridays.

A general phone number for the organization to which this application is assigned is (571) 272-1700. The fax phone number to file official papers for this application or proceeding is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



February 23, 2005

SODERQUIST  
PRIMARY EXAMINER